
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of The Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): March 18, 2019

resTORbio, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-38359
(Commission
File Number)

81-3305277
(I.R.S. Employer
Identification No.)

500 Boylston Street, 12th Floor
Boston, MA 02116
(Address of principal executive offices, including zip code)

(857) 315-5521
(Registrant's telephone number, including area code)

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 7.01. Regulation FD Disclosure.

resTORbio, Inc. (the "Company") from time to time presents and/or distributes to the investment community at various industry and other conferences slide presentations to provide updates and summaries of its business. A copy of its current corporate slide presentation (the "Presentation") is attached to this Current Report on Form 8-K as Exhibit 99.1. The Company undertakes no obligation to update, supplement or amend the materials attached hereto as Exhibit 99.1.

The information in Item 7.01 of this Current Report on Form 8-K, including Exhibit 99.1 attached hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Item 8.01 Other Events

On March 18, 2019, the Company issued a press release titled "resTORbio Announces Positive End-of-Phase 2 Meeting with FDA and Planned Initiation of Global Phase 3 Program for RTB101." A copy of the press release is attached as Exhibit 99.2 to this Current Report on Form 8-K and incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	Corporate slide presentation of resTORbio, Inc. dated March 18, 2019.
99.2	Press release issued by resTORbio, Inc. on March 18, 2019.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: March 18, 2019

resTORbio, Inc.

By: /s/ Chen Schor

Chen Schor

President and Chief Executive Officer

resTORbio™

Targeting the biology of aging
to prevent and treat
aging-related diseases

March 2019



Forward-looking statements

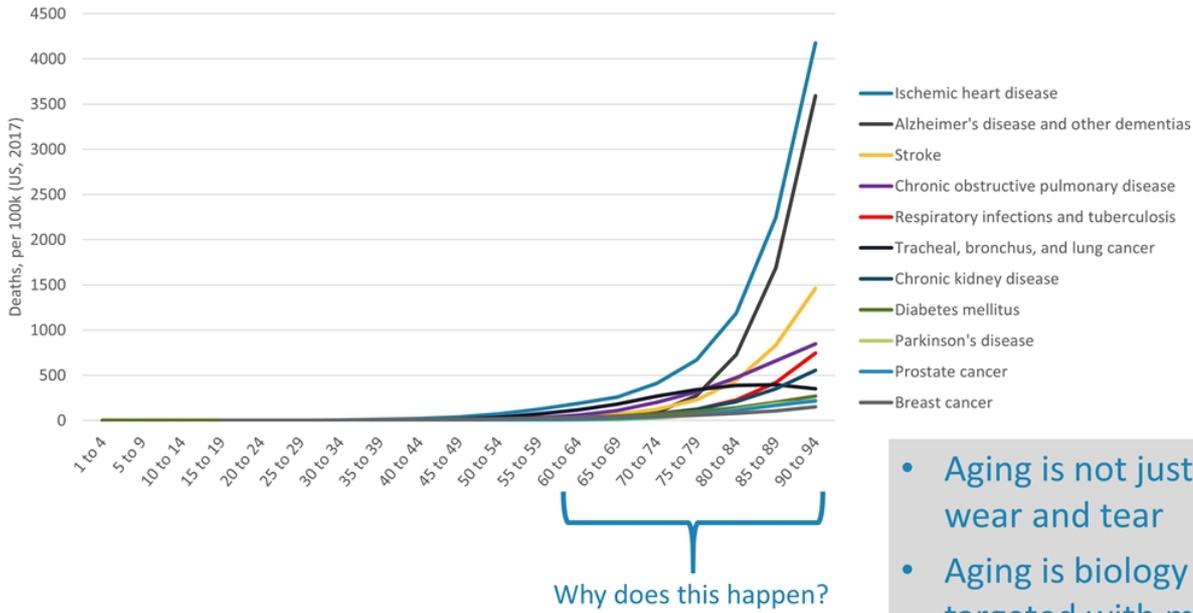
This presentation may contain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, including, but not limited to, statements regarding the safety, efficacy and regulatory and clinical progress of our product candidates, including RTB101 alone and in combination with a rapalog, such as everolimus or sirolimus. All such forward-looking statements are based on management’s current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. The use of words such as “may,” “might,” “will,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “project,” “intend,” “future,” “potential,” or “continue,” and other similar expressions are intended to identify forward-looking statements. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, our clinical results and other future conditions. All statements other than statements of historical facts contained in this presentation, including statements regarding future results of operations and financial position, business strategy, current and prospective product candidates, planned clinical trials and preclinical activities, including the initiation, timing, progress and results of our preclinical and clinical studies and our research and development programs, product approvals, research and development costs, current and prospective collaborations, timing and likelihood of success, including our ability to advance RTB101 alone and in combination with everolimus or sirolimus into, and successfully complete, clinical studies, the timing and likelihood of success of our Phase 3 clinical trials of RTB101, and the timing or likelihood of regulatory filings and approvals, expectations regarding market acceptance and size, plans for launch and commercialization, plans and objectives of management for future operations, and future results of anticipated product candidates, are forward-looking statements. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. No representations or warranties (expressed or implied) are made about the accuracy of any such forward-looking statements.

These statements are also subject to a number of material risks and uncertainties that are discussed in the section entitled “Risk Factors” in resTORbio’s annual report on Form 10-K for the fiscal year ended December 31, 2017, as well as discussions of potential risks, uncertainties, and other important factors in resTORbio’s subsequent filings with the Securities and Exchange Commission. Any forward-looking statement speaks only as of the date on which it was made. Neither we, nor our affiliates, advisors, or representatives, undertake any obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law.

Certain information contained in this presentation relates to or is based on studies, publications, surveys and other data obtained from third-party sources and the Company’s own internal estimates and research. While we believe these third-party sources to be reliable as of the date of this presentation, we have not independently verified, and we make no representation as to the adequacy, fairness, accuracy or completeness of, any information obtained from third-party sources. In addition, all of the market data included in this presentation involves a number of assumptions and limitations, and there can be no guarantee as to the accuracy or reliability of such assumptions. Finally, while we believe our own internal research is reliable, such research has not been verified by any independent source.

- **First-in-class and most advanced selective TORC1 program for aging-related diseases**
 - Extensive body of literature demonstrating that aging is a biology regulated by the TORC1 pathway
 - Lead candidate, RTB101, is an orally administered, small molecule, potent TORC1 inhibitor product candidate
- **Phase 3 program will evaluate whether RTB101 decreases, as compared to placebo, the percentage of subjects with clinical symptoms consistent with an RTI with or without laboratory-confirmation of a pathogen**
 - In two Phase 2 studies enrolling > 900 elderly subjects, RTB101 10mg QD was observed to improve immune function and reduce the incidence of RTIs
 - Plan to initiate Phase 3 program in 2Q19; Data expected mid-2020
- **Data-driven approach to expand into potential additional aging-related indications**
 - Plan to initiate Phase 1b/2a study in Parkinson's disease in 1Q19
 - Building a pipeline targeting multiple mechanisms underlying the biology of aging
- **Significant market opportunity due to the rapidly growing aging population and the potential of TORC1 inhibition to improve the function of multiple aging organ systems**

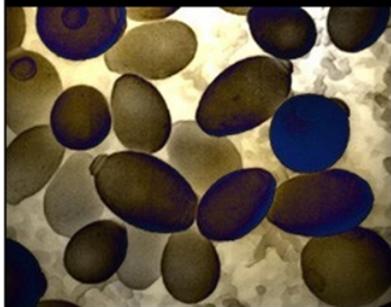
Aging is the biggest risk factor for most chronic diseases



- Aging is not just due to random wear and tear
- Aging is biology that may be targeted with medicines

The TORC1 pathway

TORC1 is an evolutionarily conserved pathway that regulates aging



Yeast



Worms



Flies



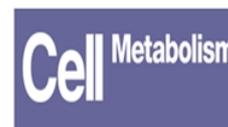
Mice

TORC1 inhibition has extended lifespan and healthspan in multiple preclinical species

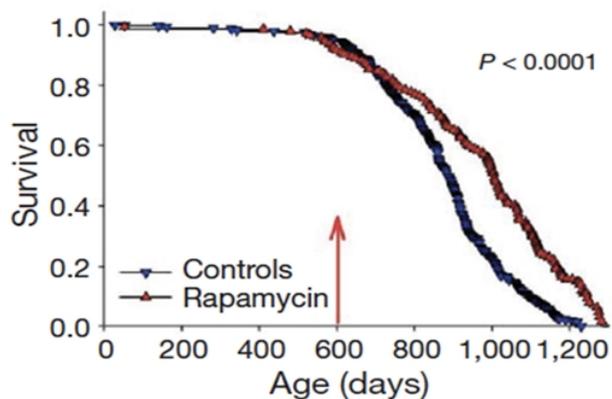
Source: Lamming, Dudley W., et al. (2013) *Journal of Clinical Investigation* 123 (3): 980–989.

Extensive genetic validation that TORC1 inhibition extends lifespan across species

Species	Genetic Manipulation to Inhibit mTOR
Yeast	<p><i>SCH9</i> (<i>Akt/S6K</i> homolog) insertional mutant¹</p> <p><i>SCH9</i> (<i>Akt/S6K</i> homolog) deletion¹</p> <p><i>SCH9</i> (<i>Akt/S6K</i> homolog) insertional mutant²</p> <p><i>SCH9</i> (<i>Akt/S6K</i> homolog) deletion²</p> <p><i>TOR1</i> deletion³</p> <p><i>TOR1</i> deletion⁴</p>
<i>C. elegans</i>	<p><i>TOR</i> (<i>let-363</i>) RNAi⁵</p> <p>Raptor (<i>daf-15</i>) heterozygous⁶</p> <p><i>S6K</i> (<i>rsk-1</i>) RNAi⁷</p> <p><i>S6K</i> (<i>rsk-1</i>) deletion mutant⁷</p> <p><i>TOR</i> (<i>let-363</i>) RNAi⁷</p> <p><i>S6K</i> (<i>rsk-1</i>) RNAi⁸</p> <p><i>S6K</i> (<i>rsk-1</i>) deletion mutant⁸</p> <p><i>TOR</i> (<i>let-363</i>) RNAi⁸</p> <p>Raptor (<i>daf-15</i>) RNAi⁹</p> <p>RagGTPase (<i>raga-1</i>) RNAi⁹</p> <p>RagGTPase (<i>raga-1</i>) RNAi⁹</p> <p>Rheb (<i>rheb-1</i>) RNAi⁹</p>
<i>D. melanogaster</i>	<p><i>dTSC1</i> overexpression¹⁰</p> <p><i>dTSC2</i> overexpression¹⁰</p> <p><i>dTOR</i> FRB domain (dominant negative)¹⁰</p> <p><i>dS6K</i> dominant negative¹⁰</p> <p><i>DTOR</i> mutant (hypomorph)¹¹</p> <p><i>d4E-BP</i> overexpression¹²</p> <p><i>d4E-BP</i> weak activated¹²</p> <p><i>d4E-BP</i> strong activated¹²</p>
<i>M. musculus</i>	<p>Loss of <i>S6K1</i>¹³</p> <p><i>Mtor^{+/-}Mlst8^{+/-}</i> genotype¹⁴</p>

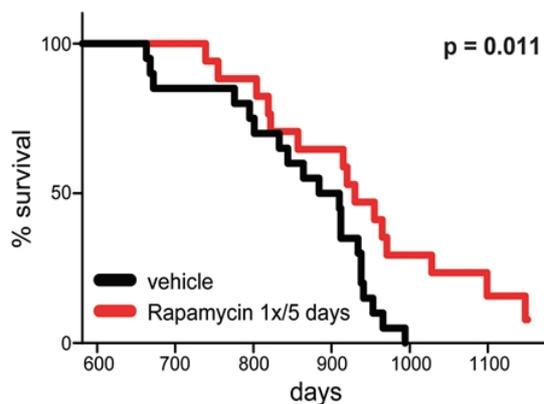


TORC1 inhibitors extended lifespan in mice even when started late in life and given intermittently



Daily Dosing

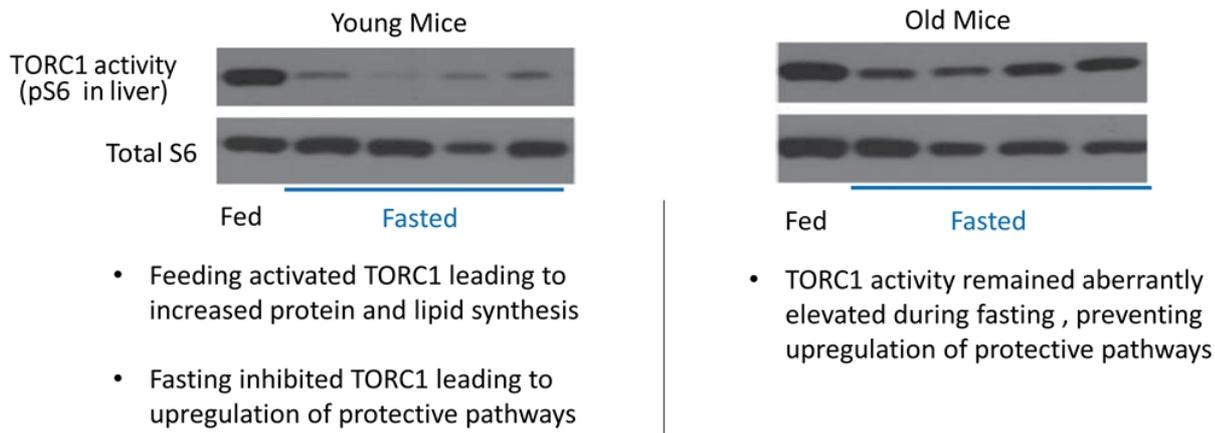
Harrison et al. (2009) *Nature*, 460:392-396



Intermittent Dosing
Once Every 5 Days

Arriola Apelo et al. (2016) *Gerontol A Biol Sci Med Sci*, 71: 876-88

TORC1 may become dysregulated and overactive in some aging organ systems



Sengupta et al., *Nature* 2010

Decreasing TORC1 activity may upregulate protective pathways and may have benefits in aging-related diseases

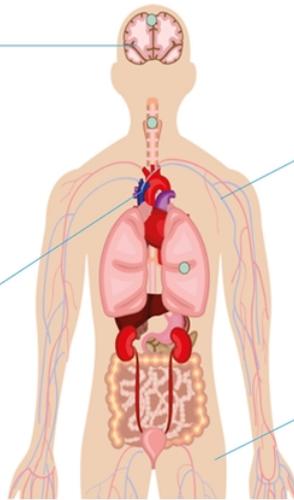
Inhibition of TORC1 has the potential to improve the function of multiple aging organ systems

Improved neurologic function

Tain et al., *Nature Neuroscience*, 2009
Malagelada et al., *J Neurosci*, 2010
Spilman et al., *PLoS ONE*, 2010
Halloran et al., *Neuroscience*, 2012
Majumder et al., *Aging Cell*, 2012
Neff et al., *JCI*, 2013

Reversal of aging-related cardiac dysfunction

Flynn et al., *Aging Cell*, 2013
Dai et al., *Aging Cell*, 2014
Chiao et al., *Aging*, 2016



Reversal of aging-related immune dysregulation

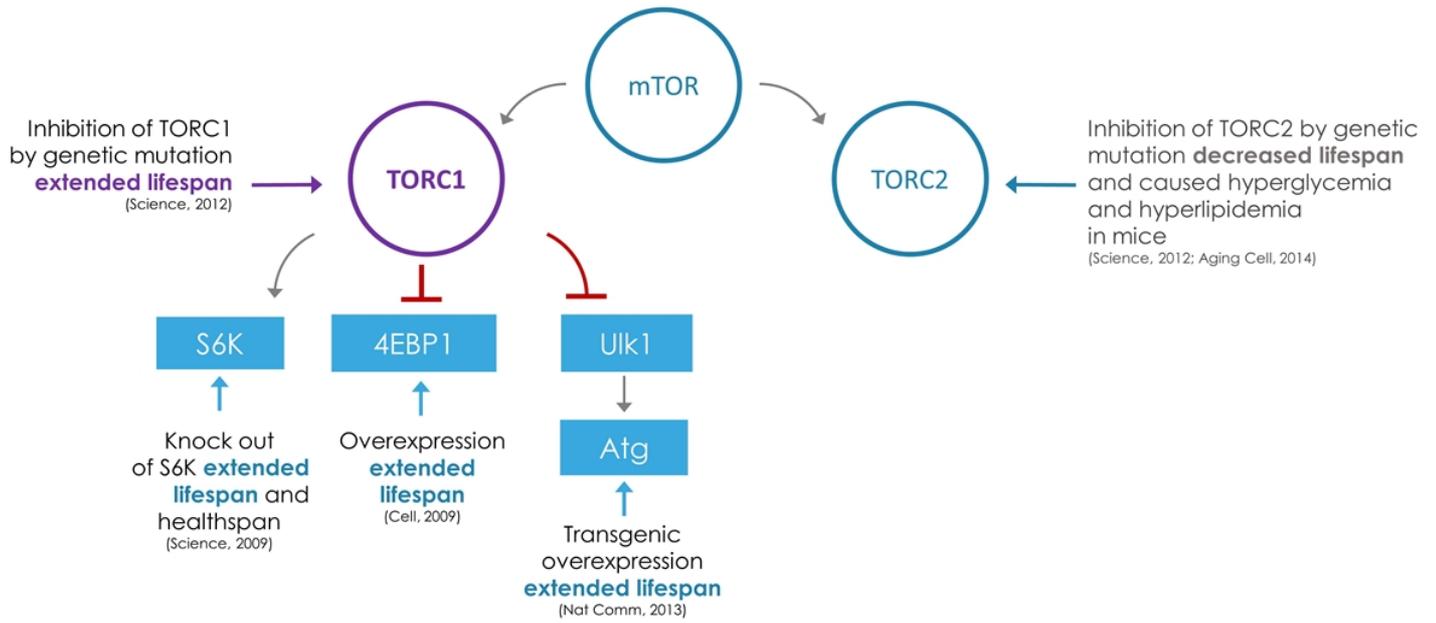
Chen et al., *Science Sig*, 2009
Selman et al., *Science*, 2011
Neff et al., *JCI*, 2013
Hurez et al., *Aging Cell*, 2015

Improvement in physical activity

Selman et al., *Science*, 2011
Harrison et al., *Nature*, 2009
Wilkinson et al., *Aging Cell*, 2014
Flynn et al., *Aging Cell*, 2013

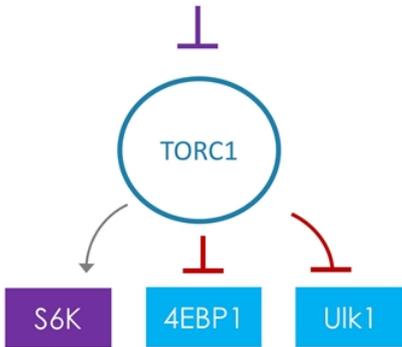
TORC1 Pathway

Selective inhibition of TORC1 may have therapeutic benefit for the treatment of aging-related diseases



Spectrum of TORC1 inhibition with RTB101 and rapalog

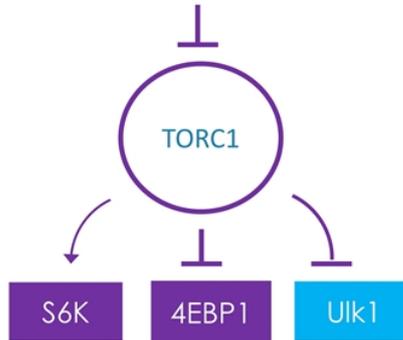
everolimus or sirolimus



Inhibits the phosphorylation of 1 target of TORC1

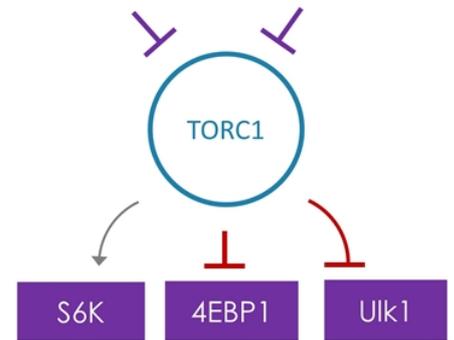
■ = indicates phosphorylation is inhibited

RTB101



Inhibits the phosphorylation of 2 targets of TORC1

RTB101 + everolimus or sirolimus



Inhibits the phosphorylation of 3 targets of TORC1

Objective: Improve **immune function** to decrease the burden of respiratory illness in the elderly

Results of Phase 2a trial

- 264 mostly healthy elderly people randomized to the following TORC1 inhibitor treatment arms (all doses were QD):



- Everolimus 0.1mg + RTB101 10mg
- RTB101 10mg
- Everolimus 0.5mg
- Everolimus 0.1mg
- Placebo

- Both RTB101 10mg QD and RTB101 10mg + everolimus 0.1mg QD significantly reduced the incidence of all infections as well as respiratory tract infections (RTIs)
 - Reduction in RTIs:
 - RTB101 10mg: 42% reduction (**p=0.006)
 - RTB101 10mg + everolimus 0.1mg: 36% reduction (*p=0.01)
- Both RTB101 10mg and RTB101 10mg + everolimus 0.1mg upregulated antiviral gene expression in whole blood

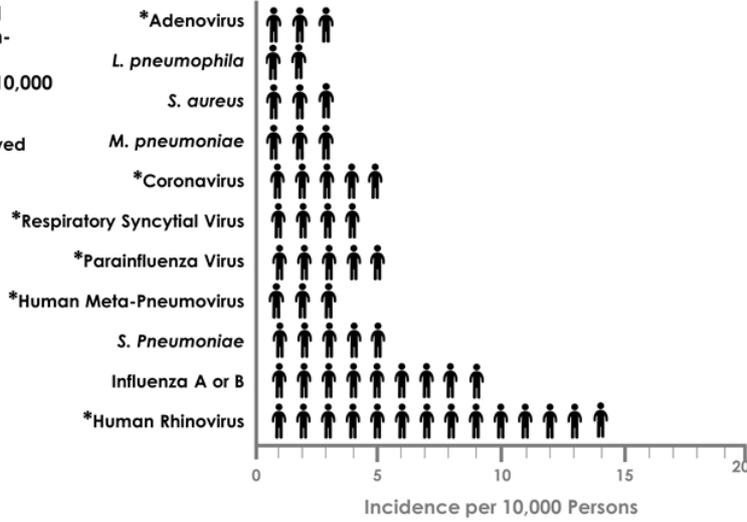
RTB101 offers a potential new approach to harnessing the immune system to target multiple pathogens

The majority of pathogens detected in elderly people hospitalized for pneumonia are viruses for which **NO APPROVED THERAPIES** are currently available



Indicates the annual number of pathogen-specific pneumonia hospitalizations per 10,000 adults ≥ 80

* Viruses with no FDA-approved therapies available



RTB101:
IMMUNOTHERAPY
TARGETING TORC1

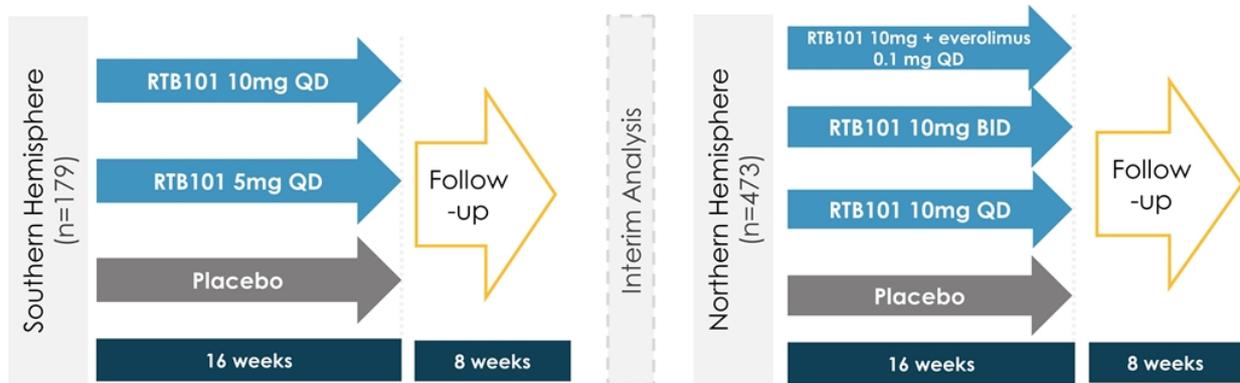
Phase 2a to Phase 2b: Population, primary endpoint and dosing duration were modified

	Phase 2a	Phase 2b
POPULATION:	 Healthy, 65 and older	 85 and older  65 and older w/ asthma  65 and older w/ diabetes  65 and older w/ COPD  65 and older, smokers
PRIMARY ENDPOINT:	Self-reported RTIs	Laboratory-Confirmed RTIs
DOSING DURATION:	6 weeks	16 weeks

Goal: Define patient population and dose for Phase 3 program

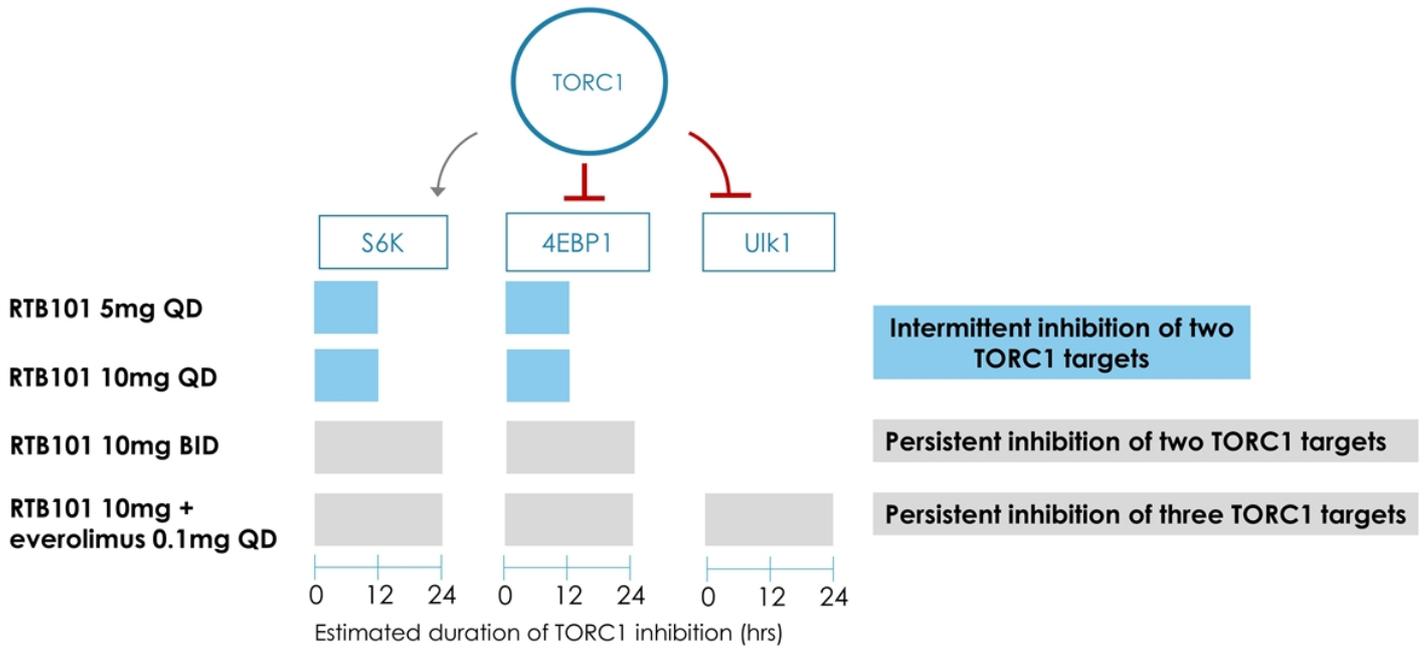
Phase 2b design

- **Primary Endpoint:** Reduction in the percentage of patients with laboratory-confirmed RTIs through week 16
- **Population:** Elderly subjects at increased risk of RTI-associated morbidity and mortality, defined as:
 - ≥ 85 years of age
 - 65-84 years of age with one or more comorbidities including:
 - Asthma
 - Chronic obstructive pulmonary disease (COPD)
 - Type 2 diabetes mellitus (T2DM)
 - Current smoker



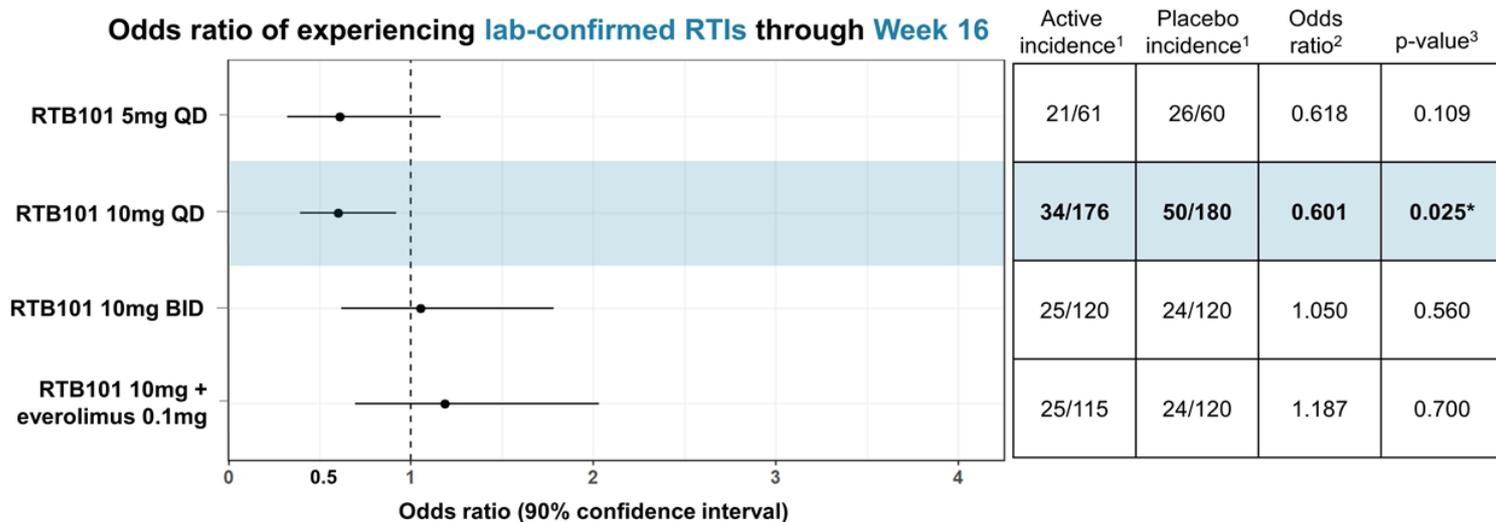
QD = once daily; BID = twice daily

Dosing regimens in Phase 2b estimated to result in different duration and spectrum of TORC1 inhibition



QD = once daily; BID = twice daily

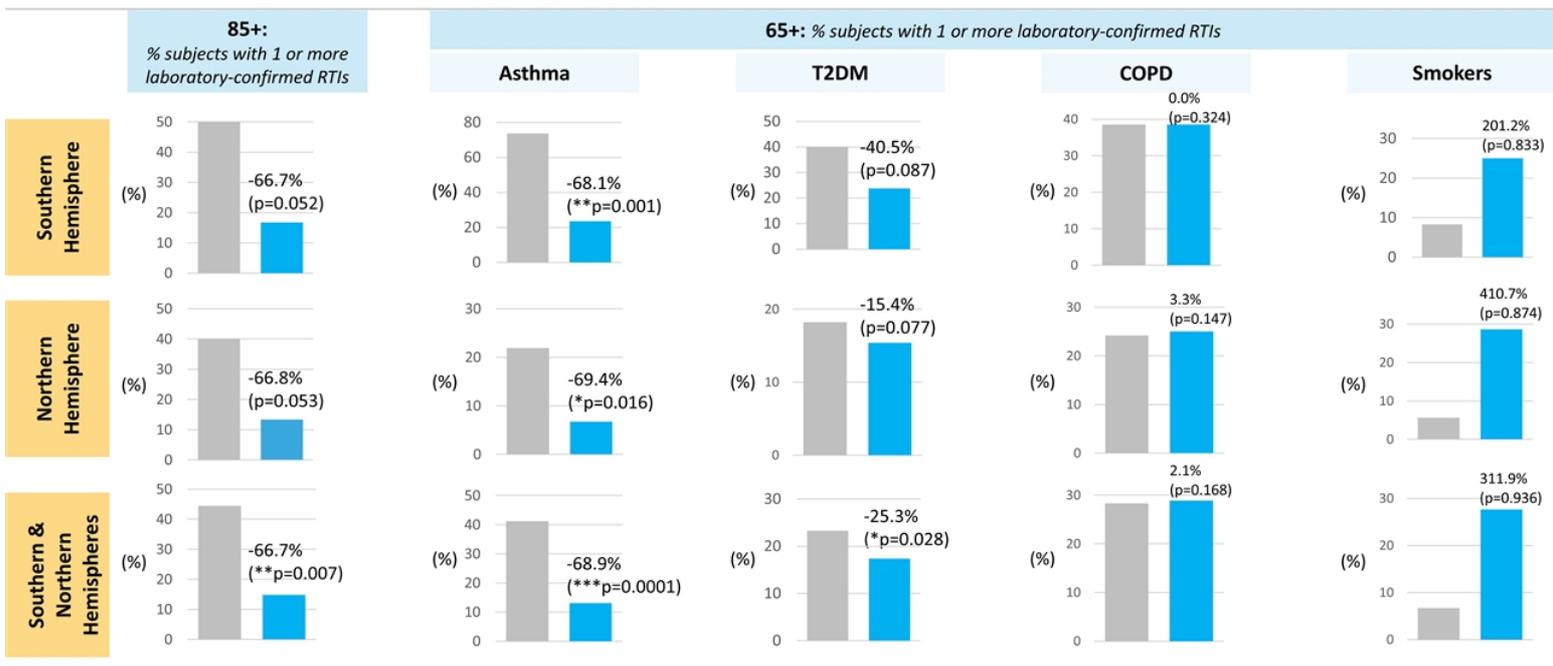
RTB101 10mg QD was observed to reduce the incidence of laboratory-confirmed RTIs



RTB101 10mg QD demonstrated a 30.6% reduction in the percentage of subjects with laboratory-confirmed RTIs compared to placebo

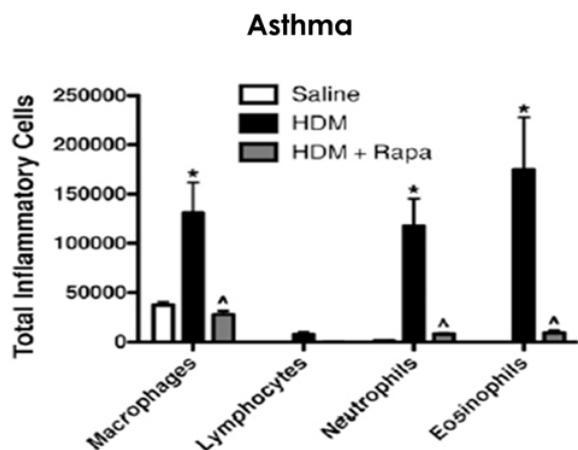
¹No. of subjects in cohort with one or more laboratory-confirmed RTIs/No. of subjects in cohort; ²Odds ratio represents the odds of experiencing one or more laboratory-confirmed RTIs in the active treatment group versus the placebo group; ³One-sided p-value; *p<0.05; QD = once daily; BID = twice daily

COPD and smokers were non-responding subgroups (pre-specified analyses)

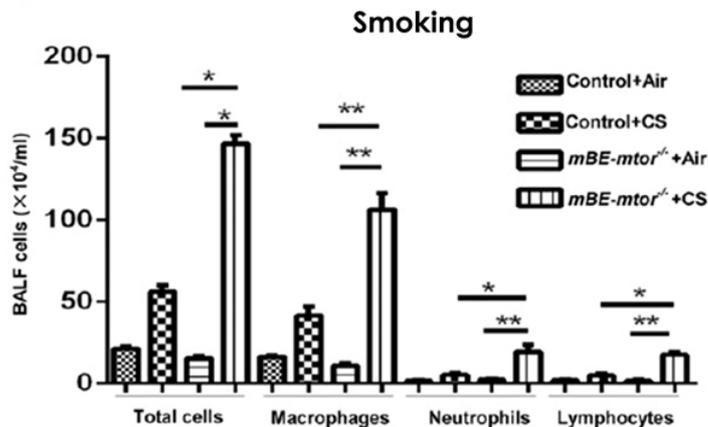


■ = placebo cohort; ■ = RTB101 10mg once daily cohort; One-sided p-value; QD = once daily; BID = twice daily; *p<0.05, **p<0.01, ***p<0.001

In preclinical studies mTOR inhibition decreased airway inflammation in asthma models and increased airway inflammation due to smoking



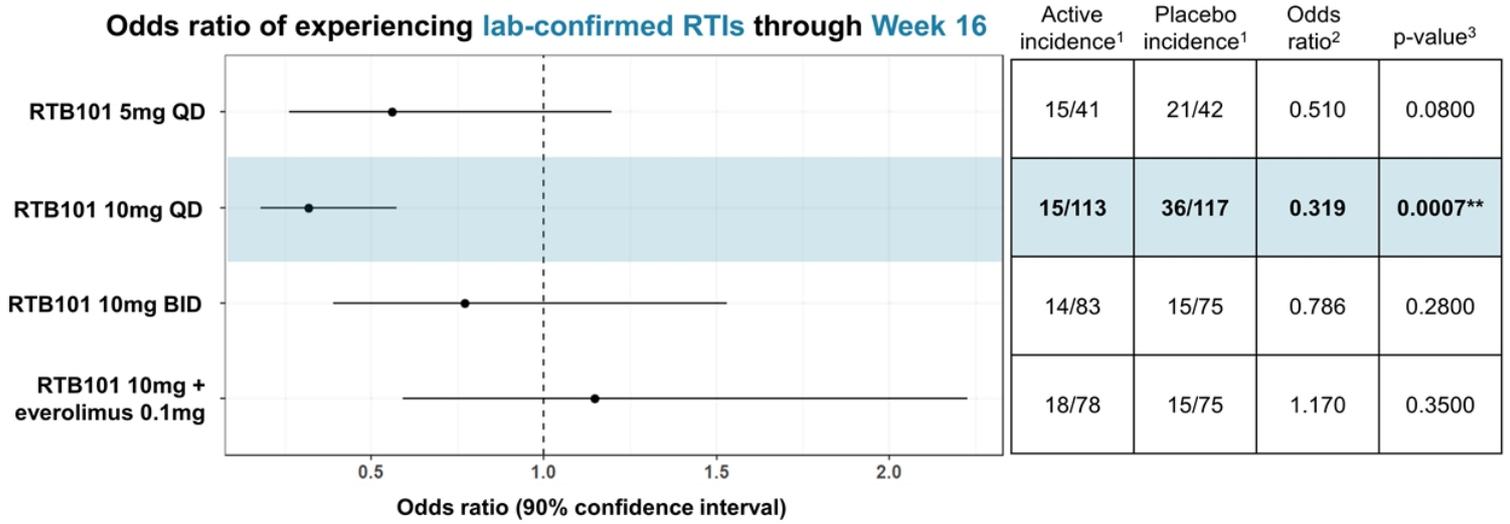
mTOR inhibition with rapamycin (Rapa) significantly **decreased** airway inflammation in a preclinical asthma model in which mice were exposed to intranasal house dust mites (HDM)¹



Disruption of mTOR selectively in bronchial epithelial cells (mBE-mtor^{-/-}) significantly **increased** cigarette smoke (CS)-induced lung inflammation in a COPD model in which mice were exposed to cigarette smoke for 6 months²

¹Mushaben E. M. et al., *J Immunol* 2011;187:5756-5763; ²Wang Y et al., *J Immunol* 2018;200:2571-2580

A significant reduction in the incidence of laboratory-confirmed RTIs was observed in subjects 65+ (excluding smokers/COPD subjects)



¹No. of subjects in cohort with one or more laboratory-confirmed RTIs/No. of subjects in cohort; ²Odds ratio represents the odds of experiencing one or more laboratory-confirmed RTIs in the active treatment group versus the placebo group; ³One-sided p-value; **p<0.01; QD = once daily; BID = twice daily

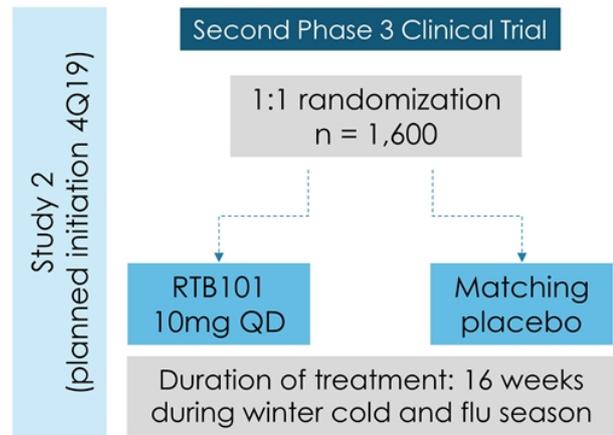
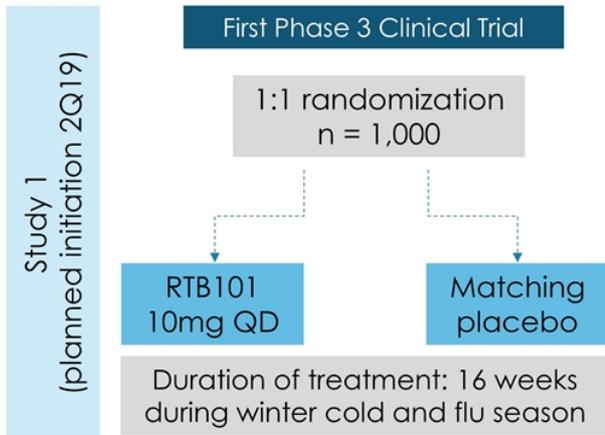
End-of-Phase 2 meeting with FDA and planned design of Phase 3 clinical trials

Important regulatory alignment for RTB101 Phase 3 program to support potential NDA submission

- ✓ Patient population: 65 and older excluding current smokers/COPD patients
- ✓ Dosing arms: RTB101 10mg QD vs. matching placebo
- ✓ Duration of treatment: 16 weeks during winter cold and flu season
- ✓ Primary endpoint: Reduction in the percentage of subjects with clinical symptoms consistent with an RTI with or without laboratory-confirmation of a pathogen
- ✓ Expected safety database at NDA submission: 1,500 subjects
- ✓ Topline data expected mid-2020

Planned design for Phase 3 clinical trials

Patient population: 65 and older excluding smokers/COPD subjects



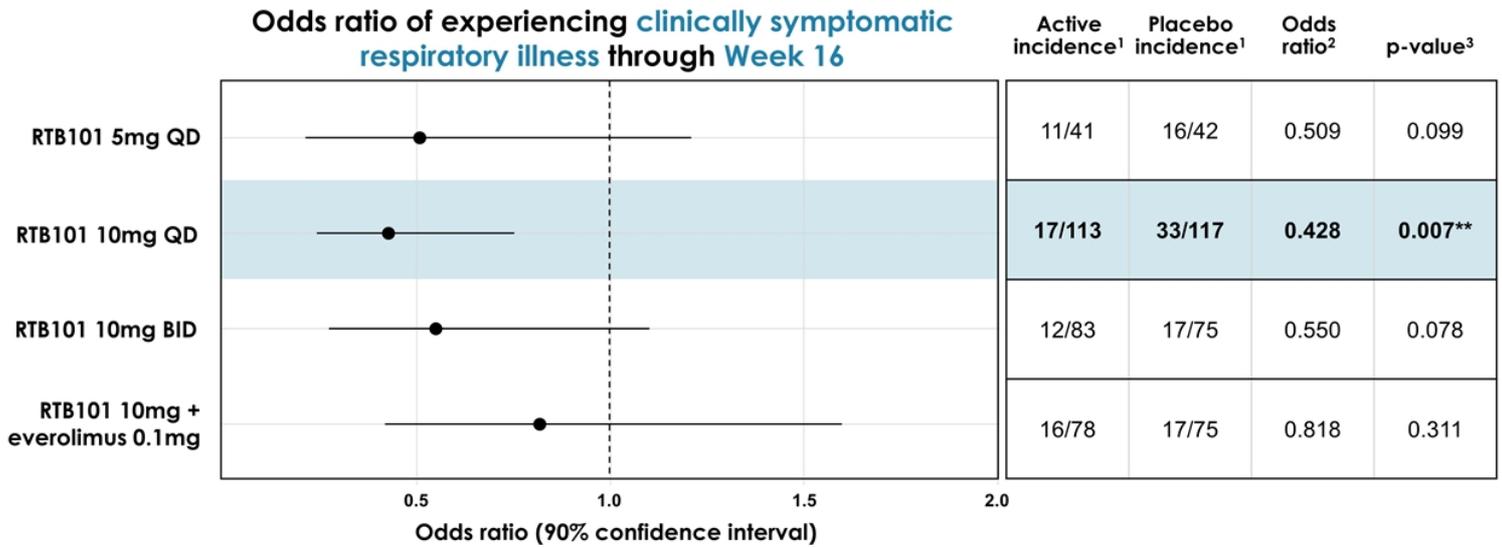
Planned primary and secondary endpoints

FDA alignment on primary endpoint that will evaluate RTB101's potential to reduce the incidence of multiple types of respiratory tract infections caused by multiple pathogens

- **Primary endpoint:** Reduction in the percentage of subjects with clinical symptoms consistent with an RTI with or without laboratory-confirmation of a pathogen
 - Defined as **clinically symptomatic respiratory illness**
 - Consistent with the Phase 2b clinical trial, the primary endpoint is based on prespecified diagnostic criteria that encompass multiple types of respiratory tract infections¹
- **Secondary endpoint:** Reduction in the percentage of subjects with clinically symptomatic respiratory illness with laboratory-confirmation of a pathogen

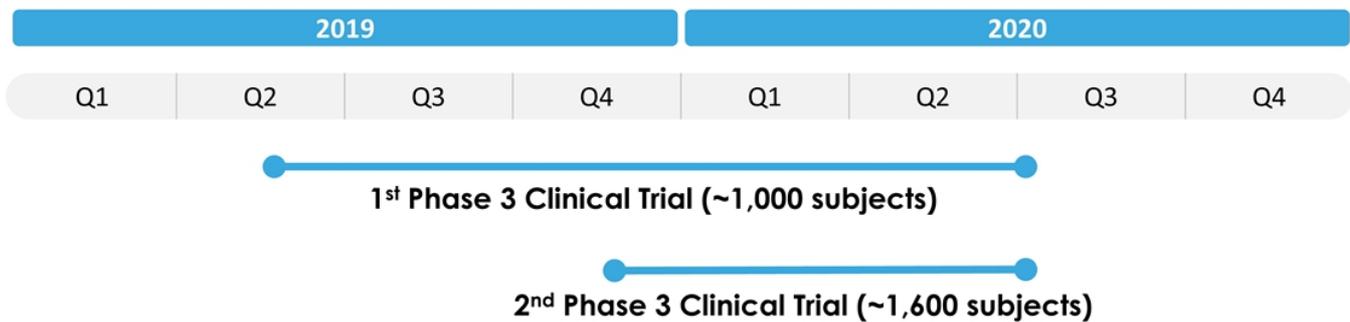
¹ Final eDiary subject to FDA review

An analysis of the Phase 2b demonstrated a reduction in clinically symptomatic respiratory illness in subjects 65+ (excluding smokers/COPD subjects), the proposed Phase 3 population



¹No. of subjects in cohort with one or more clinically symptomatic respiratory illness/No. of subjects in cohort; ²Odds ratio represents the odds of experiencing one or more clinically symptomatic respiratory illness in the active treatment group versus the placebo group; ³One-sided p-value; **p<0.01; QD = once daily; BID = twice daily

Expected timeline for Phase 3 clinical trials



- Top-line data from Phase 3 clinical trials expected **mid-2020**
- **Statistical power:** $\geq 90\%$ power to show a **30% reduction in the percentage of subjects with clinically symptomatic respiratory illness between RTB101 and placebo using a two-sided test at alpha of 5%.**
 - $>99\%$ power to show a 46% reduction in the percentage of subjects with clinically symptomatic respiratory illness (the effect size observed in the Phase 2b analysis)

Data from two Phase 2 studies with RTB101 10mg QD support the design of Phase 3 clinical trials

Two Phase 2 studies enrolling > 900 elderly subjects demonstrated:

- RTB101 10mg QD **improved immune function** and **reduced** the incidence of RTIs
 - RTI reduction demonstrated in healthy elderly and in elderly with comorbidities
- High responding population identified as elderly subjects who were not current smokers and did not have COPD
- RTB101 was observed to be **safe** and **well-tolerated**

An analysis of the Phase 2b data demonstrated a **46.6% reduction** in the percentage of subjects with clinically symptomatic respiratory illness in the proposed Phase 3 population (**p=0.007)

Market Opportunity in RTIs

RTIs are a significant healthcare burden in the elderly

- Mortality from RTIs is higher than mortality from colorectal, pancreatic, breast or prostate cancer¹
- RTIs are the 4th most common cause for hospitalization in 65+ (2nd in 85+)²
- RTIs cause the majority of asthma exacerbations in the elderly³
- The majority of RTIs are caused by viruses for which there are no approved therapies⁴
- Decreasing the incidence of RTIs in the elderly may significantly decrease health care costs

	US	EU5	JP	CN
Elderly People without COPD and who are non-smokers*	40M	53M	29M	77M
Elderly (65-84 years old) with asthma	3.2M	3.3M ⁵	2.1M ⁶	2.5M ⁷
Very elderly (85+ years old)	6.5M	9.3M	5.5M	8.9M

- ✓ In the US, about 65% of elderly subjects are aware of the risk from RTIs and get vaccinated for influenza every season⁸
- ✓ Influenza is only 1 of many pathogens that cause RTIs⁹
- ✓ RTB101 is a potential new class of medicine being developed to reduce the burden of respiratory illness caused by multiple pathogens

Survey of 100 physicians to determine potential usage in the target patient populations

Physician survey*: Expected use in target populations

% Reduction in RTI	Estimated % prescribed in patients (patient-weighted means)		
	≥85	65-84 with asthma	65-84 with comorbidities
25%	33%	36%	36%
33%	41%	44%	47%
40%	46%	48%	51%

*Respondent background (n=100):

Medical Specialty		Practice characteristics	
Geriatrics	25	Years practicing medicine	Avg 19 (median 19.5, range 6-33)
Primary Care	50	# pts ≥ 65 seen/month	Avg 250 (median 220, range 80-600)
Pulmonologist	25	% services billed to Medicare	Avg 63% (median 65%, range 30-100%)

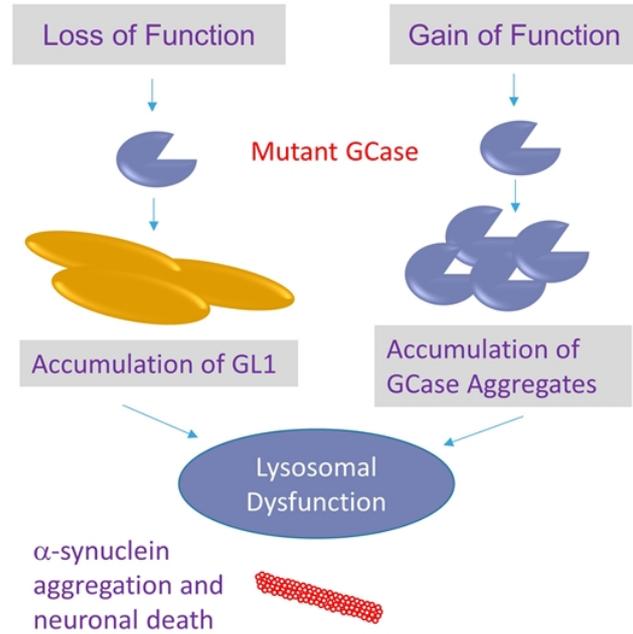
Ameliorating Neurodegenerative Diseases

Parkinson's Disease

GBA mutation in Parkinson's disease (PD) leads to α -synuclein aggregation and neuronal cell death

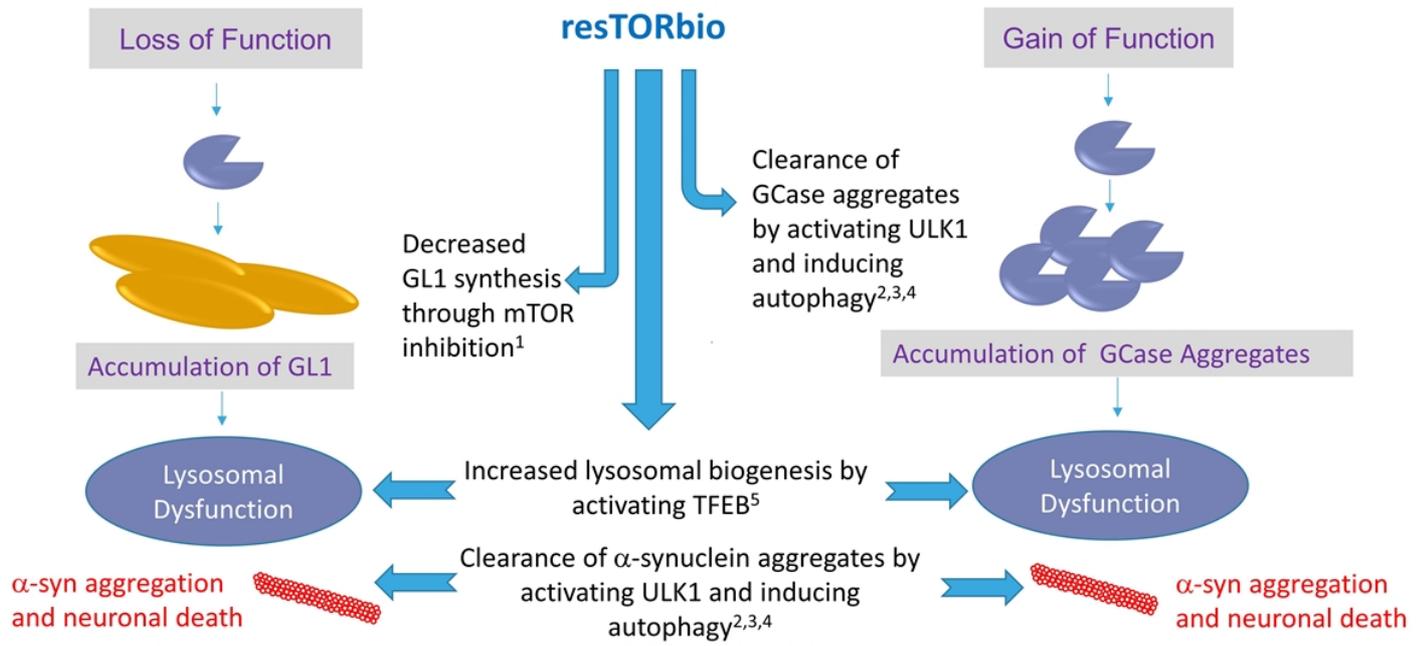
Disease cascade:

- GBA is a gene encoding the lysosomal enzyme glucocerebrosidase (GCase)
- Mutant GCase may contribute to PD pathogenesis through a loss or gain of function:
 - **Loss of function:** Decreased GCase activity leading to an accumulation of its lipid substrate glucosylceramide (GL1) that disrupts lysosomal function¹
 - **Gain of function:** Accumulation of misfolded GCase aggregates that disrupt lysosomal function²
- Disruption of lysosomal function prevents clearance of aggregated α -synuclein and leads to neuronal death³



¹Mazzulli, J. R., et al. (2011), *Cell* 146(1): 37-52; ²Cullen, V., et al. (2011), *Annals of Neurology* 69(6): 940-953. ³Schondorf D.C., et al., (2014) *Nature Communications* 5:4028
GBA = glucocerebrosidase; α -syn = alpha-synuclein

resTORbio GBA PD program potential benefits to GBA PD patients (both loss or gain of function GBA mutations)



¹Guri, Y., et al. (2017). *Cancer Cell* 32(6): 807-823; ²Decressac, M., et al. (2013). *Proc Natl Acad Sci USA* 110(19): E1817-1826; ³Cullen, V., et al. (2011). *Ann Neurol* 69(6): 940-953; ⁴Kinghorn, K.J., et al. (2016). *J Neurosci* 36(46): 11654-11670; ⁵Roczniak-Ferguson, A., et al. (2012). *Sci Signal* 5(228): ra42.

Phase 1b/2a Parkinson's disease trial design

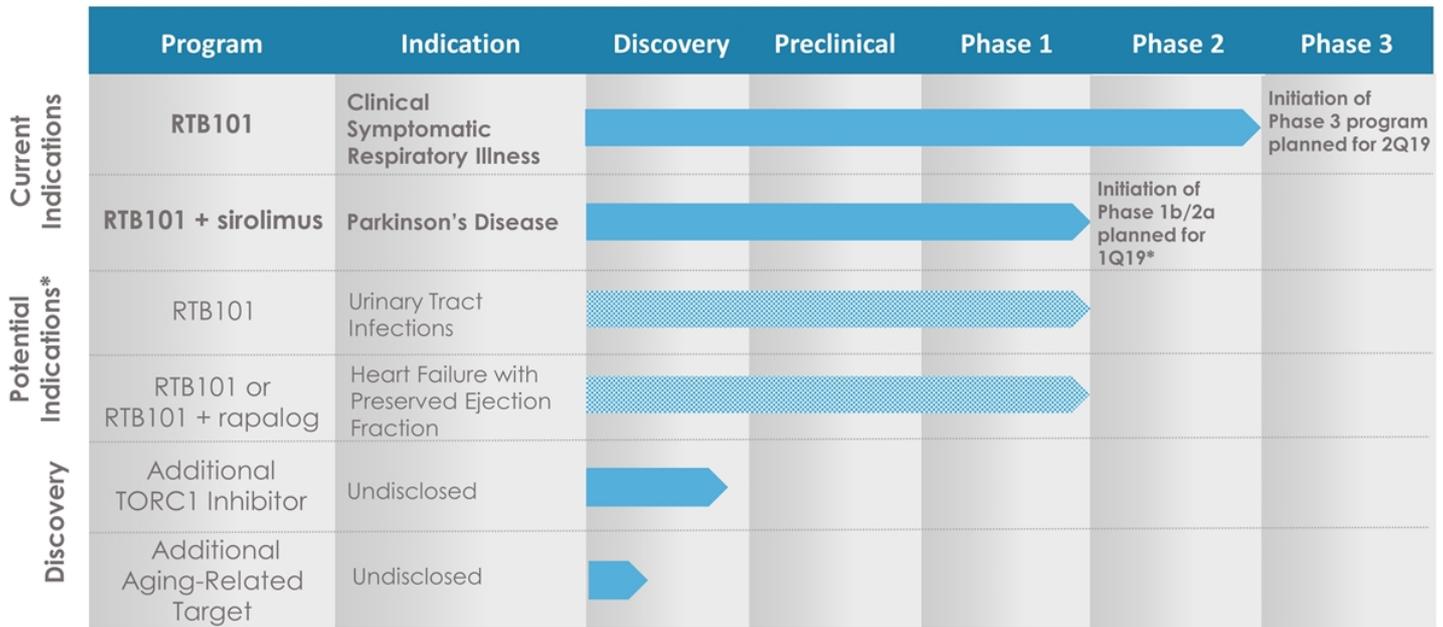
Design	<p>Randomized, Placebo-Controlled Phase 1b/2a Study (4-week dosing)</p> <ul style="list-style-type: none"> Mild PD patients (mH&Y I-II) with or without GBA mutations On standard of care PD drugs Once weekly dosing
Study Size	N=45 (2:1 randomization)
Key Endpoints	<p>Primary endpoint:</p> <ul style="list-style-type: none"> Safety and tolerability <p>Secondary endpoint:</p> <ul style="list-style-type: none"> Exposure in blood, plasma and CSF <p>Exploratory endpoints:</p> <ul style="list-style-type: none"> Biomarkers in plasma and CSF Clinical assessments, wearables

Cohort	RTB 101 dose (mg)	Sirolimus dose (mg)
1	300	0
2	0	2
3	300	2
4	300	4
5	300	6

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placebo
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Study initiation planned for 1Q19

Most advanced pipeline targeting aging-related diseases



*For heart failure with preserved ejection fraction, Parkinson's Disease and certain other infections, we may be required to file an investigational new drug application, or IND, prior to initiating Phase 2 clinical trials. We expect to have the ability to initiate these Phase 2 clinical trials without the need to conduct additional Phase 1 trials.

Near term milestones and financials

Milestones

- ✓ **Q1 2019** End-of-Phase 2 meeting with the FDA
- Q1 2019** Initiate Phase 1b/2a study in Parkinson's disease
- Q2 2019** Initiate global Phase 3 program for RTB101

Financials

Cash, cash equivalents and marketable securities were ~\$115 million as of September 30, 2018



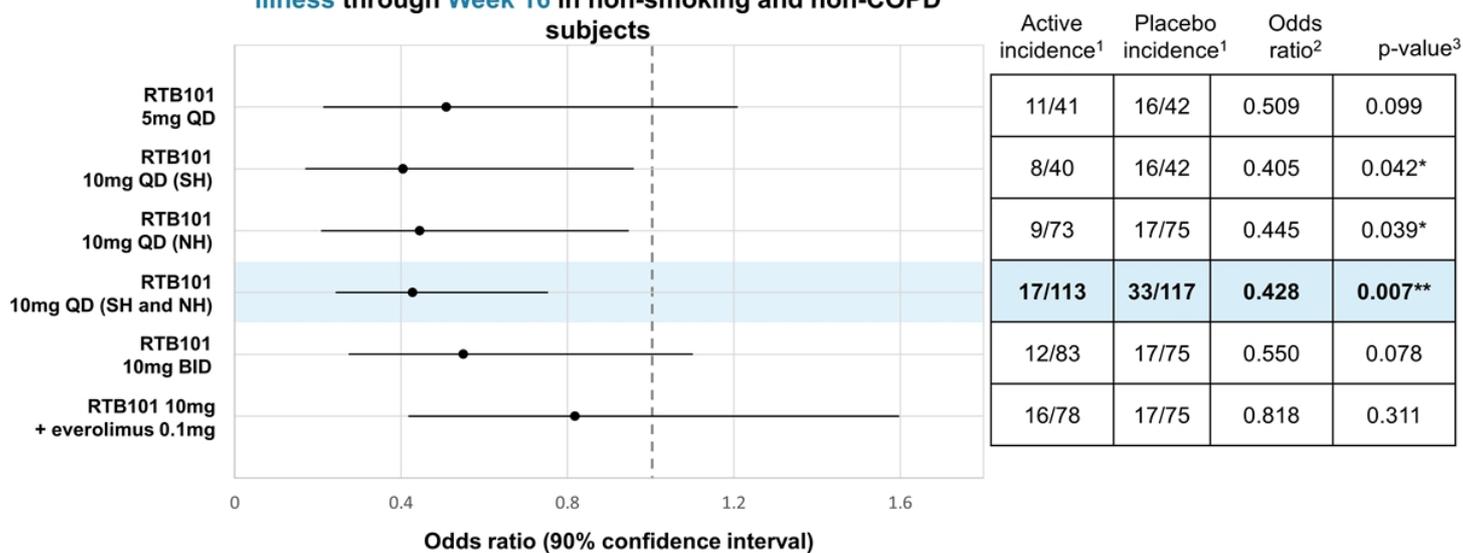
resTORbio™

Targeting the biology of aging
to prevent and treat
aging-related diseases

March 2019

An analysis of the Phase 2b demonstrated a reduction in clinically symptomatic respiratory illness in subjects 65+ (excluding smokers/COPD subjects), the proposed Phase 3 population

Odds ratio of experiencing clinically symptomatic respiratory illness through Week 16 in non-smoking and non-COPD subjects



¹No. of subjects in cohort with one or more clinically symptomatic respiratory illness/No. of subjects in cohort; ²Odds ratio represents the odds of experiencing one or more clinically symptomatic respiratory illness in the active treatment group versus the placebo group; ³One-sided p-value; **p<0.01; QD = once daily; BID = twice daily; SH = Southern Hemisphere; NH = Northern Hemisphere.

References for extensive genetic validation that TORC1 inhibition extends lifespan across species (slide 6)

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- 2) Fabrizio P, Pletcher SD, Minois N, Vaupel JW, Longo VD. Chronological aging-independent replicative life span regulation by Msn2/Msn4 and Sod2 in *Saccharomyces cerevisiae*. *FEBS Lett*. 2004; 557(1–3):136–142.
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- 13) Selman C, et al. Ribosomal protein S6 kinase 1 signaling regulates mammalian life span. *Science*. 2009;326(5949):140–144.
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References RTIs are a significant healthcare burden in the elderly (slide 30)

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3. BMJ, 1995, 310:1225-1228; BMJ, 1993, 307:982-986
4. Am J Med. 2002. 112(6A):42S-49S
5. Based on estimated percentage of asthmatics in older adults in high-income countries
6. Based on percentage of asthmatics in the Japanese adult population.
7. Based on percentage of adults age ≥ 60 on asthma medication in Jinan province; Likely underestimated due to low diagnosis rate of asthma
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References for the number of elderly people without COPD and who are non-smokers (slide 30)

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China:

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resTORbio Announces Positive End-of-Phase 2 Meeting with FDA and Planned Initiation of Global Phase 3 Program for RTB101*Phase 3 program on track to start enrolling patients in the second quarter of 2019**Data from two Phase 2 clinical trials enrolling more than 900 patients support the design of the Phase 3 program*

BOSTON, Massachusetts, March 18, 2019 – resTORbio, Inc. (Nasdaq: TORC), a clinical-stage biopharmaceutical company developing innovative medicines that target the biology of aging to prevent or treat age-related diseases, today announced plans to initiate its Phase 3 program of RTB101 10 mg once daily following its End-of-Phase 2 meeting with the U.S. Food and Drug Administration (FDA). The Phase 3 program will evaluate whether RTB101 decreases, as compared to placebo, the percentage of subjects with clinical symptoms consistent with a respiratory tract infection (RTI) with or without laboratory-confirmation of a pathogen.

“Our collaborative interactions with the FDA have us on track to start our Phase 3 program and advance RTB101 towards the potential submission of a New Drug Application (NDA). Initiating our planned Phase 3 program for RTB101 is a big step forward in the field of aging and immunosenescence, the decline in immune system function that occurs with age,” said Chen Schor, Co-Founder, President and CEO of resTORbio. “In our Phase 2 clinical trials, RTB101 was observed to improve immune function and decrease the incidence of respiratory tract infections in elderly subjects. Given that RTIs are the fourth leading cause of hospitalizations in the elderly and significantly increase the risk of cardiovascular events, we believe RTB101, if successful in Phase 3 trials and approved, may offer a significant benefit to patients, payors and society.”

Alignment was reached with the FDA on key elements of the Phase 3 program that will support the submission of an NDA for RTB101. The planned program includes two randomized, double-blinded, placebo-controlled Phase 3 clinical trials:

- Patient population: People 65 years of age and older, excluding current smokers and chronic obstructive pulmonary disease (COPD) patients
- Dose: Subjects will be randomized to RTB101 10 mg once daily or matching placebo (1:1 randomization)
- Duration of dosing: 16 weeks during winter cold and flu season
- Primary endpoint: Reduction in the percentage of subjects with clinical symptoms consistent with a RTI based on prespecified diagnostic criteria (defined as clinically symptomatic respiratory illness) with or without laboratory-confirmation of a pathogen
- Secondary endpoint: Reduction in the percentage of subjects with clinically symptomatic respiratory illness with laboratory-confirmation of a pathogen

Data from two Phase 2 clinical trials of RTB101 in more than 900 elderly subjects support the design of the Phase 3 program. RTB101 10 mg once daily improved immune function and reduced the incidence of RTIs in both healthy elderly and in elderly with comorbidities. Additionally, the Phase 2 clinical trials demonstrated a significant reduction in both self-reported and laboratory-confirmed RTIs. In an analysis of the Phase 2b trial results, a 46.6% reduction in the percentage of subjects with clinical symptoms consistent with an RTI was observed in subjects who did not smoke and did not have COPD, the proposed Phase 3 population, when treated with RTB101 10 mg once daily as compared to placebo ($p=0.007$). RTB101 10 mg once daily was observed to be well-tolerated.

“We are very excited to have reached alignment with the FDA on key elements of the Phase 3 clinical trials,” said Dr. Joan Mannick, Co-Founder and Chief Medical Officer of resTORbio. “Most RTIs are caused by viruses that lack effective treatments. Since RTB101 was observed to upregulate antiviral innate immune pathways that target many different viruses, both our Phase 2b and Phase 3 primary endpoints include prespecified diagnostic criteria that encompass multiple different types of respiratory tract infections caused by multiple different types of viruses. We look forward to initiating our Phase 3 program and to developing RTB101 with the goal of improving the function of the aging immune system and thereby reducing the burden of respiratory illness in the elderly.”

The first Phase 3 clinical trial is planned to begin in the southern hemisphere in the second quarter of 2019 and is expected to enroll approximately 1,000 subjects. The second Phase 3 clinical trial is planned to begin in the northern hemisphere in the fourth quarter of 2019 and is expected to enroll approximately 1,600 subjects. Each of the planned Phase 3 studies is expected to be powered at greater than or equal to 90% to demonstrate a 30% reduction in the percentage of subjects with clinically symptomatic respiratory illness between RTB101 and placebo using a two-sided test of 0.05 significance. The number of subjects who will have received RTB101 10 mg once daily in the Phase 2b clinical trial and planned Phase 3 program is expected to reach at least 1,500, which, based on communications with the FDA, is the size of the safety database that the Company believes will be sufficient to support an NDA filing, barring any safety signals observed in the Phase 3 trials. Depending on enrollment in the planned Phase 3 clinical trials, resTORbio expects top-line data in mid-2020.

About Respiratory Tract Infections

The reduced ability of the aging immune system to effectively detect and fight infections results in increased susceptibility of the elderly to RTIs. In the U.S., RTIs are the fourth leading cause of hospitalizations and seventh leading cause of death in people age 65 years and older. The majority of RTIs are caused by viruses, many of which have no currently approved therapies.

About RTB101

RTB101 is an investigational, oral, selective, and potent TORC1 inhibitor product candidate. RTB101 inhibits the phosphorylation of multiple targets downstream of TORC1. Inhibition of TORC1 has been observed to extend lifespan and healthspan in aging preclinical species and to improve immune, cardiac and neurologic functions, suggesting potential benefits in several aging-related diseases.

About resTORbio

resTORbio, Inc. is a clinical stage biopharmaceutical company developing innovative medicines that target the biology of aging to prevent or treat age-related diseases. resTORbio's lead program selectively inhibits TORC1, an evolutionarily conserved pathway that contributes to the decline in function of multiple organ systems, including the immune, cardiovascular and central nervous systems. Learn more about resTORbio, Inc. at <https://www.restorbio.com>.

Forward Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. Investors are cautioned that statements in this press release which are not strictly historical statements, including, without limitation, express or implied statements or guidance regarding our proposed timing and trial design for our Phase 3 clinical trial of RTB101, including anticipated results of this clinical trial, our future plans to develop RTB101 alone or in combination with rapalogs, such as everolimus or sirolimus, including the therapeutic potential and clinical benefits thereof and the potential patient populations that may be addressed by our product candidates, our ongoing and future clinical trials for RTB101, including the timing of the initiation and anticipated results of these trials, the continued expansion of our pipeline into Parkinson's disease and UTIs, the intended regulatory path for our product candidates and interactions with regulatory authorities, our ability to replicate results achieved in our clinical trials in any future trials, our cash position and our expectations regarding our uses of capital constitute forward-looking statements identified by words like "believe," "expect," "may," "will," "should," "seek," "anticipate," or "could" and similar expressions.

Such forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated, including, without limitation, risks associated with: our planned Phase 3 clinical trials in RTIs and/or development of RTB101, either alone or in combination with a rapalog, such as everolimus or sirolimus; our ability to successfully demonstrate the efficacy and safety of our lead product candidate; the clinical results for our lead product candidate which may not support further development of additional indications; uncertainties related to the results of our clinical trials predictive of future results in connection with future trials, including our planned Phase 3 clinical trials; the timing and outcome of our planned

interactions with regulatory authorities; and obtaining, maintaining and protecting our intellectual property; as well as those risks more fully discussed in the section entitled "Risk Factors" in the Annual Report on Form 10-K filed by resTORbio, Inc. with the Securities and Exchange Commission, as well as discussions of potential risks, uncertainties, and other important factors in our subsequent filings with the Securities and Exchange Commission. In addition, any forward-looking statements represent our views only as of today and should not be relied upon as representing its views as of any subsequent date. resTORbio explicitly disclaims any obligation to update any forward-looking statements.

Investor Contact

Jennifer Robinson
resTORbio, Inc.
857-772-7029
jrobinson@restorbio.com

Media Contact

Amir Khan
Biosector 2
212-462-8767
Amir.Khan@Syneoshealth.com